UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER
CRAIG, DWIN M

ART UNIT	PAPER NUMBER
2123	7

DATE MAILED: 01/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

		Application N .	Applicant(s)
Office Action Summary		09/460,688	PATIEJUNAS, KESTUTIS
		Examiner	**Art Unit**	
		Dwin M Craig	2123	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _11-13-2003_ .

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-38_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) _1-16, 32 and 33_ is/are allowed.

6)☒ Claim(s) _17-31, 34-38_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

    If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____ .

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

    a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

1.   Claims 1-31 have been presented for reconsideration in view of Applicant's amended

Claim language. Claims 32-38 have been presented for Examination.

2.   Applicants renumbering of the original Claim 27 to Claim 31 is noted and the Examiner

withdraws the earlier objection to the claim numbering.

Response to Arguments

3.   Applicants arguments filed on 11-13-2003 have been fully considered and the Examiners

response is as follows:

    3.1   Regarding Applicant's response to the 35 U.S.C. 103(a) rejections of Claims 1, 2,

4, 15 and 16:

    Applicants have argued that:

    Amended independent claim 1 of the Applicant's invention includes a
method of simulating connection characteristics of a network. The method
includes providing a driver capable of accessing a stream of network packets,
calculating a send time for each of the network packets, and attaching the
respective send time to the corresponding packet. The method further includes
sequencing the network packets in a queue until respective send times to
simulate a desired propagation connection characteristic, and deleting the
send time from each network packet when the packet is removed from the queue.
The method includes altering the stream of network packets to simulate an
additional connection characteristic of the network.

    The Examiner asserts that in regards to the limitation of removing the send time from an

outgoing packet, the prior art of record does not disclose or make obvious this limitation. Based

on the Applicant's arguments on page 11 of paper #6 the Examiner withdraws the earlier 35

U.S.C. 103(a) rejections of Claims 1 and dependent Claims 2, 4, 15 and 16. For the same reason

the Examiner withdraws the rejections of dependent Claims 3, 5, 8, 9, 10, 11 and 12.

3.2   Regarding Applicant's response to the 35 U.S.C. 103 rejections of Independent

Claim 17:

Applicant has argued:

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    Amended independent claim 17 of the Applicant's invention includes a
method of altering a network packet having an original address. The method
includes providing a driver capable of accessing a stream of network packets,
and mapping the original address to a randomly-generated simulated network
address to create an address-modified network packet. The method further
includes modifying an additional connection characteristic of the stream of
network packets.
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The Examiner asserts that the current prior art of record does not contain or make

obvious the limitation of a randomly generated simulated network address and withdraws the

earlier 35 U.S.C. 103(a) rejections of independent Claim 17 and dependent Claims 18-21.

3.3   Regarding Applicant's response to the 35 U.S.C. 103 rejection of Independent

Claim 23:

Applicants have argued that:

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    In contrast, the combination of Borela et al. and Hashimoto et al. does
not disclose an addressing module that replaces an original network address
of a network packet with a randomly-generated simulated network address.
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The Examiner asserts that the current prior art of record The Examiner asserts that the

current prior art of record does not contain or make obvious the limitation of a randomly

generated simulated network address and withdraws the earlier 35 U.S.C. 103(a) rejections of

independent Claim 23 and dependent Claims 18-25.

An updated search has revealed new art.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

4.   Independent **Claims 35 and 37** and dependent **Claim 38** are rejected under 35 U.S.C.

102(a) as being anticipated by **Foss et al. U.S. Patent 6,295,577.**

4.1   As regards independent **Claims 35 and 37** the *Foss et al.* reference teaches a

network traffic simulator that generates a test packets network address in a random way **(Figures**

1-9) and capturing a network packet from a data stream **(Col. 8 Lines 22-40, Col. 8 Lines 53-**

64).

4.2   As regards dependent **Claim 38** the *Foss et al.* reference discloses random

generation of addresses **(Figure 5 ITEM 502).**

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148 USPQ 459

(1966), that are applied for establishing a background for determining obviousness under 35

U.S.C. 103(a) are summarized as follows:

1.   Determining the scope and contents of the prior art.
2.   Ascertaining the differences between the prior art and the claims at issue.
3.   Resolving the level of ordinary skill in the pertinent art.
4.   Considering objective evidence present in the application indicating obviousness
      or nonobviousness.

5.   Independent **Claim 17** is rejected under 35 U.S.C. 103(a) as being unpatentable over

Hashimoto et al. U.S. Patent 6,119,168 in view of **Somasegar et al. U.S. Patent 5,862,362** and

in further view of **Foss et al. U.S. Patent 6,295,557.**

5.1   As regards independent **Claim 17** the *Hashimoto et al.* refernece discloses a

method of altering a network packet having an original network address and mapping the

original network address to a simulated network address to create an address-modified network

packet **(Figure 6, ITEM 22, Col. 9 Lines 51-59, Figure 11, Col. 3 Lines 30-53).**

However, the *Hashimoto et al.* refernece does not expressly disclose providing a driver

that can access packet streams or modifying an additonal connection characteristic of a stream of

network packets and a randomly generated simulated network address.

The *Somasegar et al.* reference discloses a driver capable of accessing a stream of

network packets **(Figure 3 Item 70 and Figure 4 Item 70, Col. 5 Lines 28-55),** and modifying

an additonal connection characteristic of a stream of network packets **(Figure 4 ITEMs 122 and

124, Col. 7 Lines 48-67).**

It would have been obvious, to one of ordinary skill in the art, at the time of the

invention, to have modified the *Hashimoto et al.* reference with the *Somasegar et al.* reference

because, *(motivation to combine)* all network communications are routed through the NDIS

interface layer and therefore a driver at that layer would have complete access to every protocol

in the protocol layer stack thus providing a greater degree of accuracy for the network simulation

(Somasegar et al. Col. 6 Lines 18-34).

The *Hashimoto et al.* reference discloses that there is high cost involved in generating

network addresses that are required for simulating large numbers of systems in a network

(Hashimoto et al. Col. 3 Lines 6-17). An artisan of ordinary skill would have been motivated to

search the network simulation art to find a method to efficiently generate large numbers of

network addresses as disclosed in the *Hashimoto et al.* reference. In the same Network

simulation art the *Foss et al.* reference discloses the generation of random network addresses for

simulation *(Foss et al. Figures 1-9)*.

Thus, it would have been obvious, to one of ordinary skill in the art, at the time

the invention was made, to have combined the packet address modification methods of the

Hashimoto et al. reference with the random network address generation methods of the *Foss et*

al. reference because, generating a large number of network addresses is needed to efficiently

simulate a large network *(Foss et al. Col. 2 Lines 17-23)*.

6.   Dependent **Claims 18-21** are rejected under 35 U.S.C. 103(a) as being unpatentable over

Hashimoto et al. U.S. Patent 6,119,168 in view of **Somasegar et al. U.S. Patent 5,862,362** and

in further view of **Foss et al. U.S. Patent 6,295,557** and in further view of **Egbert U.S. Patent**

6,236,654.

6.1   As regards independent **Claim 17** see paragraph **5.1** above.

6.2   As regards dependent **Claims 18-21** the *Hashimoto et al.* reference does not

expressly disclose two-way mapping tables and two-way hash tables and mapping transmit and

receive packets to the values stored in these tables.

The *Egbert* reference discloses two-way mapping tables **(Figures 6 and 8),** two-way

hash tables **(Figures 9-18, Col. 10 Lines 66-67, Col. 11 Lines 1-23),** and mapping transmit and

receive packets to the values stored in these tables **(Col. 6 Lines 4-24).**

It would have been obvious, to one of ordinary skill in the art, at the time of the

invention, to have modified the *Hashimoto et al.* reference with the *Egbert* reference because,

(motivation to combine) having a hash table to filter packets and update a table of which packets

should be sent forward and which packets should be denied access to a particular subnet is an

efficient way to handle subnet filtering because hash values are easily indexed in a look up table

(Egbert, Col. 1 Lines 65-67, Col. 2 Lines 1-30).

7.   Dependent **Claim 22** is rejected under 35 U.S.C. 103(a) as being unpatentable over

Hashimoto et al. U.S. Patent 6,119,168 in view of **Somasegar et al. U.S. Patent 5,862,362** and

in further view of **Foss et al. U.S. Patent 6,295,557** and in further view of **Borella et al. U.S.**

Patent 6,442,141.

7.1   As regards independent **Claim 17** see paragraph **5.1** above.

7.2   As regards dependent **Claim 22** the *Hashimoto et al.* reference does not expressly

disclose packet loss.

The *Borella et al.* reference discloses packet loss **(Figure 6, Col. 2 Lines 28-44).**

It would have been obvious, to one of ordinary skill in the art, at the time of the

invention to have modified the *Hashimoto et al.* reference with the *Borrella et al.* reference

because *(motivation to combine)* it would be desirable to provide a system capable of artificially

creating stochastically accurate packet delay and loss to simulate actual network conditions

(Borella et al. Col. 1 Lines 60-63).

8.   Independent **Claim 23** and dependent **Claims 24 and 26-31** are being rejected under 35

U.S.C. 103(a) as being unpatentable over **Borella et al. U.S. patent 6,442,141** in view of **Foss et**

al. U.S. Patent 6,295,557.

   8.1   As regards independent **Claim 23**, the *Borella et al.* reference discloses a network

simulation system **(Col. 1 Lines 66-67 and Col. 2 Lines 1-16),** and a propagation module that

alters a propagation connection characteristic of a network packet **(Figure 6, ITEM 122).**

   However, the *Borella et al.* reference does not expressly disclose a modification module

capable of accessing a network packet or an addressing module that replaces an original network

address of a network packet with and a randomly generated simulated network address.

      The *Borella et al.* reference discloses that it would be desirable to create a system

that accurately simulates network delay **(Borella et al. Col. 1 Lines 60-63).** An artisan of

ordinary skill would have been motivated to search the network simulation art to find a method

to efficiently generate large numbers of network addresses as disclosed in the *Borella et al.*

reference. In the same Network simulation art the *Foss et al.* reference discloses the generation

of random network addresses for simulation *(Foss et al. Figures 1-9).*

Thus, it would have been obvious, to one of ordinary skill in the art, at the time the

invention was made, to have combined the packet address modification methods of the *Borella et*

al. reference with the random network address generation methods of the *Foss et al.* reference

because, generating a large number of network addresses is needed to efficiently simulate a large

network *(Foss et al. Col. 2 Lines 17-23)*.

8.2   As regards dependent **Claim 24** the *Borrella et al.* reference discloses

transmission delay **(Figure 6, ITEM 122)**.

8.3   As regards dependent **Claim 26** the *Borello et al.* reference discloses a sequence

module that alters a second characteristic of the network packet **(Figure 6 ITEM 120)**.

8.4   As regards dependent **Claim 27** the *Borello et al.* reference discloses packet loss

(Figure 6, Col. 6 Lines 31-59).

8.5   As regards dependent **Claim 31** the *Borello et al.* reference discloses storing the

packet for a period of time **(Figure 6 ITEM 122)**.

8.6   As regards dependent **Claim 28** the *Borello et al.* reference discloses an input

queue and an output queue **(Figure 2)**.

8.7   As regards dependent **Claims 29 and 30** the *Borello et al.* reference discloses a

transmission module that send out a packet at a specified time **(Figure 6)**.

9.   Dependent **Claims 25** is rejected under 35 U.S.C. 103(a) as being unpatentable over

Borella et al. U.S. patent 6,442,141 in view of **Foss et al. U.S. Patent 6,295,557** and in further

view of **Egbert U.S. Patent 6,236,654.**

9.1   As regards independent **Claim 23** see paragraph **8.1** above.

9.2   As regards dependent **Claim 25** the *Borella et al.* reference does not expressly

disclose a two-way mapping table.

The *Egbert* reference discloses a two-way mapping table **(Figure 5).**

It would have been obvious, to one of ordinary skill in the art, at the time of the

invention, to have modified the *Borella et al.* reference with the *Egbert* reference because,

(motivation to combine) having a hash table to filter packets and update a table of which packets

should be sent forward and which packets should be denied access to a particular subnet is an

efficient way to handle subnet filtering because hash values are easily indexed in a look up table

(Egbert, Col. 1 Lines 65-67, Col. 2 Lines 1-30).

10.   Independent **Claims 34 and 36** are rejected under 35 U.S.C. 103(a) as being unpatentable

over **Somasegar et al. U.S. Patent 5,862,362** in view of **Foss et al. U.S. Patent 6,295,577.**

10.1   As regards independent **Claims 34 and 36** the *Somasegar et al.* reference

discloses a method of using a device driver to access a stream of packets and simulate the loss of

a network packet **(Figures 1-4).**

However the *Somasegar et al.* reference does not expressly disclose the random

generation of network addresses.

The *Somasegar et al.* reference discloses that certain test methodologies are

unsuitable for simulating large networks **(Somasegar et al. Col. 1 Lines 29-33).** An artisan of

ordinary skill would have been motivated to search the network simulation art to find a method

to efficiently generate large numbers of network addresses as disclosed in the *Somasegar et al.*

reference. In the same Network simulation art the *Foss et al.* reference discloses the generation

of random network addresses for simulation *(Foss et al. Figures 1-9).*

Thus, it would have been obvious, to one of ordinary skill in the art, at the time

the invention was made, to have combined the packet address modification methods of the

Somasegar et al. reference with the random network address generation methods of the *Foss et*

al. reference because, generating a large number of network addresses is needed to efficiently

simulate a large network *(Foss et al. Col. 2 Lines 17-23).*

Allowable Subject Matter

11. **Claims 1-16, 32 and 33** have been allowed over the prior art of record. The following is

an examiner's reasons for allowance: Applicants are claiming the limitation of removing the

send time from an outgoing packet, in a network simulation module that provides a driver

capable of accessing a stream of network packets. The prior art of record does not disclose or

make obvious this limitation. The Examiner asserts that this is a non-obvious modification of the

earlier claimed limitation of calculating the send time for each of the network packets as they

stream by in Applicant's method of simulating the connection characteristics of a computer

network. This limitation, as defined in the specification, and by the Applicant's arguments *(see*

paper # 6) and as recited in the amended Claim language of Independent Claim 1 is a non-

obvious modification over the prior art of record. Dependent Claims 2-16, 32 and 33 are

allowable over the prior art because they depend upon an allowed base claim.

Conclusion

12.   Claims 1-16, 32 and 33 are allowed. Claims 17-31, 34-38 are rejected. This action is

NON-FINAL.

12.1   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Dwin M Craig whose telephone number is 703 305-7150. The

examiner can normally be reached on 9:00 - 5:00 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Kevin Teska can be reached on 703 305-9704. The fax phone numbers for the

organization where this application or proceeding is assigned are (703) 746-7239 for regular

communications and (703) 746-7238 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding

should be directed to the receptionist whose telephone number is 703 305-3900.

DMC
January 22, 2004